AMENDMENTS TO THE ABSTRACT

Replace the Abstract with:

In a transverse induction heating apparatus in which a material to be rolled is heated by inductors to which electric power is supplied from an AC power source, iron core widths of the inductors in a plate width direction of the material to be rolled are smaller than plate width of the material to be rolled, they are disposed on a plate width center line of the material to be rolled, and when a current penetration depth is δ (m), specific resistance of the material to be rolled is ρ (Ω-m), magnetic permeability of the material to be rolled is μ (H/m), heating frequency of the AC power source is f (Hz), and plate thickness of the material to be rolled is tw (m), the heating frequency of the AC power source is set so that

$$\delta = \{\rho/(\mu \cdot f \cdot \pi)\}^{1/2} \text{ and } (tw/\delta) < 0.95 \quad .$$